

Packaging design course teaching improvement: a case study in the faculty of applied arts, Egypt

Noha abdallah and Randa Darwish

Printing, Publishing and Packaging Department, Faculty of Applied Arts, Helwan University, Egypt
nohmoh@yahoo.com, randarwishmd@yahoo.com

Abstract

The packaging design course in printing, publishing and packaging programme, faculty of applied arts, Helwan University in Egypt is introduced as a paperless course inclusive of lectures notes to projects and evaluations. This paper discusses the teaching approaches, techniques and its application on packaging design course in printing, packaging publishing programme. The paper also discusses how the introduction and adaptation of some current teaching methods might be used to improve the quality of teaching and learning. Student's feedback was taken to assess the effectiveness of teaching methods and determined learning problems in packaging design course. Adapting new teaching methods in this course helped in overcoming students' difficulties; therefore continuous improvement should be performed for better teaching outcomes.

Keywords: Curriculum, teaching, learning, packaging design course.

Introduction

Teaching can be more effective by considering a powerful set of principles. Effective teaching involves acquiring relevant knowledge about students and using that knowledge to inform the course design and classroom teaching (Zemsky, 2009). Gathering the most relevant information as soon as possible in course planning can be: a). Inform course design (e.g., decisions about objectives, examples & format), b). Help explain student difficulties (e.g., identification of common misconceptions) and c). Guide instructional adaptations (e.g., recognition of the need for additional practice).

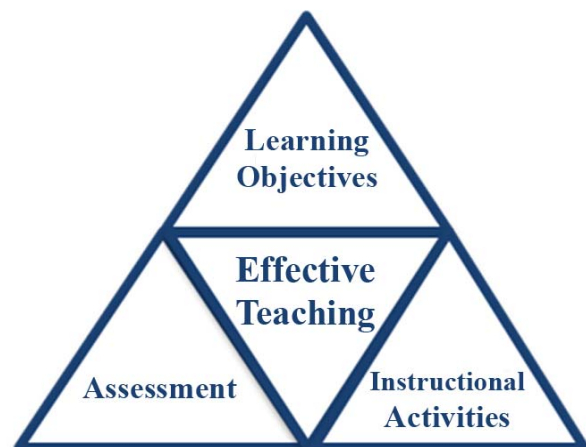
Teaching effectiveness and student learning enhancement can be achieved by: a). Articulating a clear set of learning objectives, b). The instructional activities (e.g., case studies, labs, discussions, readings) supporting these learning objectives and c). The assessments that provide opportunities for students to demonstrate the knowledge and skills articulated in the objectives, and for instructors to offer targeted feedback that can guide further learning. Therefore, effective teaching involves aligning the three major components of instruction: learning objectives, instructional activities and assessments (Fig. 1) (Eberly center for teaching excellence, 2009).

Effective teaching (ET) involves articulating explicit expectations regarding learning objectives and policies. Being explicit about course policies (e.g., on class participation, laptop use, and late assignment) in the syllabus and in class allows to resolve differences early and tends to reduce conflicts and tensions that may arise. Altogether, being explicit leads to a more productive learning environment for all students. ET also involves prioritizing the knowledge and skills that instructors choose to focus on. Too many topics work against students learning. ET involves recognizing and overcoming the instructors' blind spots and adopting

appropriate teaching roles to support learning goals. Students are ultimately responsible for their own learning. The roles that instructors assume are critical in guiding students' thinking and behavior. Instructors can take on a variety of roles in teaching (e.g., moderator, challenger & commentator). These roles should be chosen in service of the learning objectives and in support of the instructional activities. ET involves progressively refining courses based on reflection and feedback (Zemsky, 2009).

Teaching requires adapting. Instructors need to continually think about their teaching and be ready to make changes when needed. Knowing what and how to change requires instructors to examine relevant information on their own teaching effectiveness. Based on such data, instructors might modify the learning objectives, content, structure, or format of a course, or otherwise adjust their teaching. Small, purposeful changes driven by feedback and priorities are most likely to be manageable and effective (Eberly center for

Fig. 1. Effective teaching components.



teaching excellence, 2009). ET principles are shown in

Fig. 2. Effective teaching principles.

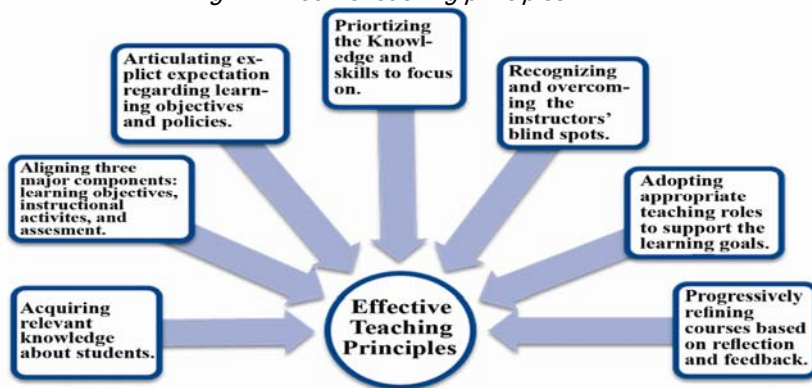


Fig. 2.

Common teaching methods

Table 1 shows a comparison of some common teaching methods, strengths, limitations and preparation.

Computers-based teaching

Technology can help students to learn better if the instructors plan it carefully to support specific learning objectives (Indiana University Teaching Handbook, 2007). One of the common technologies for making presentation supporting teaching is power point software. Students like to be taught using Power point and think that power point presentations are entertaining, enhance clarity, and aid recall of subject matter and possible to go beyond mere text (Craig & Amernic, 2006). Additionally, it is easy to produce handout sheets with the bullet points clearly printed out. Teacher can use it again, modify it for another class, or include it in a set of modules (Vahlensieck, 2005).

Some computer based presentation technologies, however do present new challenges as summarized below:

- i. One of the challenges to the effective use of power point in the classroom is the need for effective, cost-efficient and flexible projection systems (Jackson, 1997).
- ii. Because computers can make a series of slides appear visually slick, with seamless transitions, it's easy to rush through material too fast and to forget to keep students active and attentive.
- iii. Another challenge is the result of the increased access to information that computers facilitate. Instructors who choose to present web materials during lecture will find that the selection and editing of those materials becomes critical (Indiana University Teaching Handbook, 2007).

Learning by teaching

Learning by teaching (German: LdL) is a widespread method in Germany, developed by Jean-Pol Martin. The students take the teacher's role and teach their peers.

Learning by teaching allows pupils and students to prepare and to teach lessons or parts of lessons (Joachim & Marion, 2008). The most important advantages of learning by teaching are: i) The best way to learn is by teaching; teaching is a way of transmitting information in the most optimal way and in order to do that, brains engage with the task to simplify the information and to find the most important items that are necessary to unfold the rest of it that follows, as such, we learn, ii) Teaching forces students to communicate their thoughts clearly and precisely and iii) Teaching helps students develop the extremely important skill of describing their ideas well enough for others to use them

(Rusczyk, 2009).

Packaging design course teaching

Packaging design course is one of the design courses taught in the printing, publishing and packaging programme in faculty of applied arts, Helwan University in Egypt. The course position in the programme, course description, course objectives and the current and new teaching methods are described below:

Course position in the programme

Printing, publishing and packaging programme is a 4 years undergraduate programme. The packaging design course is taught in 3 levels starting from the 2 year to the forth undergraduate year in the programme. The course depends on 2 semester system (non credit hours) 28 weeks; 3 h/week. The course is taught in Arabic which is the native language in Egypt.

Course description

This course is an introduction to the field of packaging design, covering branding, graphics and typography: an introduction to composition and structural design skills needed to create three dimension models for packaging design. The course focuses on: i) Design phases from the concept to three dimensional forms, ii) The problems that arise in transition between two dimensional designs and three dimensional designs and iii) Computer graphics for packaging design using software programs to manipulate elements and colour in order to achieve variants of specific packaging design.

Course objectives

At the end of the packaging design course the students should be able to: i) Emphasize and understand the issues and components of packaging design from structural and graphical sides, ii) Think creatively and gain layouts and graphic design skills, iii) Gain new primitive skills in computer graphic programmes. As most of assignments will be computed in a variety of programs



Table 1. Common teaching methods (East Bay AIDS, 1992)- (EuTEACH, 2009)

Teaching method	Strengths	Limitations	Preparation
Lecture	<ul style="list-style-type: none"> ▪ Presents factual material in direct and logical manner. ▪ Contains experience which inspires. ▪ Stimulates thinking to open discussion. ▪ Useful for large groups. 	<ul style="list-style-type: none"> ▪ Audience is passive. ▪ Learning is difficult to gauge. ▪ Communication is in one way. 	<ul style="list-style-type: none"> ▪ Needs clear introduction and summary. ▪ Needs time and content limit to be effective. ▪ Should include examples.
Lecture with discussion	<ul style="list-style-type: none"> ▪ Involves audience at least after the lecture. ▪ Audience can question, clarify & challenge. 	<ul style="list-style-type: none"> ▪ Time may limit discussion period. ▪ Quality is limited to quality of questions and discussion. 	<ul style="list-style-type: none"> ▪ Requires that questions be prepared prior to discussion.
Brainstorming	<ul style="list-style-type: none"> ▪ Listening exercise that allows creative thinking for new ideas. ▪ Encourages full participation because all ideas equally recorded. ▪ Draws on group's knowledge and experience. ▪ One idea can spark off other ideas. 	<ul style="list-style-type: none"> ▪ Can be unfocused. ▪ Needs to be limited to 5 - 7 minutes. ▪ People may have difficulty getting away from known reality. ▪ If not facilitated well, criticism and evaluation may occur. 	<ul style="list-style-type: none"> ▪ Facilitator selects issue. ▪ Must have some ideas if group needs to be stimulated.
Class discussion	<ul style="list-style-type: none"> ▪ Pools ideas and experiences from group. ▪ Effective after a presentation, film or experience that needs to be analyzed. ▪ Allows everyone to participate in an active process. 	<ul style="list-style-type: none"> ▪ Not practical with more than 20 people. ▪ Few people can dominate. ▪ Others may not participate. ▪ Is time consuming. ▪ Can get off the track. 	<ul style="list-style-type: none"> ▪ Requires careful planning by facilitator to guide discussion. ▪ Requires question outline.
Small group discussion	<ul style="list-style-type: none"> ▪ Allows participation of everyone. ▪ People often more comfortable in small groups. ▪ Can reach group consensus. 	<ul style="list-style-type: none"> ▪ Needs careful thought as to purpose of group. ▪ Groups may get side tracked. 	<ul style="list-style-type: none"> ▪ Needs to prepare specific tasks or questions for group to answer.
Case studies	<ul style="list-style-type: none"> ▪ Develops analytic and problem solving skills. ▪ Allows for exploration of solutions for complex issues. ▪ Allows students to apply new knowledge and skills. 	<ul style="list-style-type: none"> ▪ People may not see relevance to own situation. ▪ Insufficient information can lead to inappropriate results. 	<ul style="list-style-type: none"> ▪ Case must be clearly defined in some cases. ▪ Case study must be prepared.
Worksheets /surveys	<ul style="list-style-type: none"> ▪ Allows people to think for themselves without being influenced by others. ▪ Individual thoughts can then be shared in large group. 	<ul style="list-style-type: none"> ▪ Can be used only for short period of time. 	<ul style="list-style-type: none"> ▪ Facilitator has to prepare handouts.
Guest speaker	<ul style="list-style-type: none"> ▪ Personalizes topic. ▪ Breaks down audience's stereotypes. 	<ul style="list-style-type: none"> ▪ May not be a good speaker. 	<ul style="list-style-type: none"> ▪ Contact speakers and coordinate. ▪ Introduce speaker appropriately.

(Photoshop, freehand & illustrator) and iv) Make structural and graphic packaging designs for various products.

Current teaching approaches

In the past, lectures and workshops have been the most popular and widely used method. Currently, teaching of packaging design course depends on lecturers, workshop and recently computer laboratory. Students are taught in the first weeks the packages layouts drawing (in two dimensions) and how to convert it into three dimensional shapes; they also study the different simple closing and opening techniques of packages. Three different packaging design projects are assigned through the two semesters beside the various layouts and structural first study. These projects included office tools, pharmaceutical and textile products packaging design.

Based on the review of several current teaching approaches, the paper focused on how to use them to improve the quality of teaching and learning in the packaging design course. Given that the design course has unique features, the effectiveness of the teaching approaches discussed in this paper has significant impact on the course. The paper discusses how the introduction of some current teaching methods might be used to improve the quality of teaching and learning. Feedback of the students is a way to assess the effectiveness of the teaching and learning.

Adapting new teaching method in packaging design course

Innovative learning by teaching method has been introduced for the first time in teaching the packaging design course in year 2008/2009. As the design courses in first year are mostly taught without design software practice, most students in second year lack the practical computer skills. Learning by teaching is used for the first time in this course teaching to: i) Overcome the difficulties of design software technical practice of students, ii) Increase design technical skills for students by knowledge exchanging through various students skills and abilities and iii) Self learning enhancing for undergraduate students with all its benefits. Two students are asked to prepare short graphic design tasks related to packaging design to explain to their peers in about ten minutes. The major emphasis of learning by teaching approach is that the students are actively involved in the learning process (Lu Guizhu, 2005). The number of presentations introduced by instructors had been increased to enhance teaching and learning process, each one cover different subject in the course as below:

- Design basics presentation aimed to: introduce and define the elements and principles of design and the basics of using colour that serve packaging design course to the students.

- The second presentation which had been introduced at the beginning of the first project for office tools packaging design aimed to: enrich the mental skills of the students based on the vision and imagination which addressed models for former students' works.
- The third one which had been presented at the beginning of second project Pharmaceuticals packaging aimed to: understand and comprehend the design considerations of such products, study the relationship between the product and packaging. It included an analysis of the physical form of products which in turn affects the packaging design and also addressed models of foreign innovative pharmaceutical packages design.
- The fourth presentation of the textile products packaging design third project aimed to: increase the creativity and enrich mental design skills of the students. It based on discussing of innovative packages on terms of graphic and structural design.
- Overview presentations included various packages for different products aimed to: increase design awareness and innovation skills of students.

Evaluation

A special designed questionnaire had been used to get feedback of students to evaluate the teaching methods used with packaging design course and to determine the problems that students faced during the course learning.

Results and discussion

After using different methods in teaching the *packaging design course*, an evaluation of these methods is made. The results analysis of the questionnaire reveals: a) The workshops of structural packaging design practice were sufficient for 71% of students and insufficient for the rest, b) The design basics presentation as an introduction of packaging design course was sufficient for 78% of the students and insufficient for the rest of students, c) The first project office tools packaging design presentation was sufficient for 63% of students and insufficient for the rest, d) The second project pharmaceutical packaging design third presentation was sufficient for 94% of students and insufficient for the rest, e) The third project textile product packages presentation was sufficient for 55% of students and insufficient for the rest and f) The new learning by teaching method; tutorials introduced by student were satisfactory for most of students but need to be increased.

Problems of teaching and learning packaging design course for the second year of undergraduate students identified were: i) Insufficient samples covering the course contents, ii) Insufficient time for the third project, iii) Insufficient educational resources for packaging design course and iv) Lack of students' skills in the use of graphic software.

Packaging design course has its unique characteristics as it needs a large amount of practice as long as knowledge which helps to increase the skills of graphic and structural design of packaging. Traditional teaching methods, lectures and workshops are no longer effective enough. Computer labs that are used recently in packaging design course helps spending less time in teaching packaging design and improve teaching as well.

Packaging design course is taught in Arabic language which is the native language in Egypt. Students find some problems in increasing their knowledge by further reading of packaging design issues that mostly are in English language. The presentations introduced during the packaging design course teaching varied according to the projects that were assigned during the course in subjects and contents. The presentations which included explanation, discussion and case studies were more sufficient for students than those which depend on one methodology. When the concept of design is combined with the use of computers, students spend less time on processes. Computers allow a paperless learning environment, with everything from class notes and projects to assignments (Angelov, 1999). Adapting new innovative method 'learning by teaching approach' helped students to involve in learning process, encourage self learning and enhance their computer usage skills but need to be increased in teaching packaging design course.

Conclusion

There are number of teaching approaches discussed in this paper. None is superior, and teaching approaches are not exclusive of one another. It's taken for granted that different courses have different characteristics; the best strategy is to use a combination of different teaching approaches in different courses and even in different stages of the same course. Hardcopies of packaging design students' works cannot be kept for a long period. It's recommended to make digital packaging design archive that can be used in teaching and to support the course understanding. The availability of digital copies of packaging design samples, various presentations, e-books, and tutorials help in overcoming the shortage of educational resources that concern the packaging design course. These materials will be of useful aid and good benefit to prepare an electronic Packaging design course for next years. However, from a point of view, the teaching and learning activities should be structured in such a way to activate the learner's own prior conceptions and relate them to the new knowledge. Feedback of students should be taken to assess the effectiveness of teaching methods and when using a new one. Continuous improvement should be performed for teaching enhancement and development.

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